

Date: Thursday, 5/10/2007 2:36:07 PM
 User: Kim Johnston

Process Sheet

| | | | |
|-----------------------|---------------------------------------|------------------|----------------------|
| Customer | : CU-DAR001 Dart Helicopters Services | Drawing Name | : CROSSTUBE MATERIAL |
| Job Number | : 32310 | | |
| Estimate Number | : 12566 | | |
| P.O. Number | : <i>N/A</i> | Part Number | : D6019128 |
| This Issue | : 5/10/2007 S.O. No. : <i>N/A</i> | Drawing Number | : D6019 REV.A |
| Prsht Rev. | : NC | Project Number | : N/A |
| First Issue | : <i>N/A</i> Type : LANDING GEAR | Drawing Revision | : A |
| Previous Run | : 29369 | Material | : <i>N/A</i> |
| Written By | : _____ | Due Date | : 10/30/2007 |
| Checked & Approved By | : <i>10/05/10</i> | Qty: | <i>33</i> Um: Each |
| Comment | : Est. Rev. A New Issue LL | | |

Additional Product

Job Number:



| | | |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

| | | |
|-----|----|------------|
| 1.0 | PG | PURCHASING |
|-----|----|------------|



Comment: PURCHASING

Issue P/O: *3761**C 207/05/11**(30)*

a) Order as per Dwg D6019

b) Material: 2.750 x 0.313 wall 7075-T6/T6511 (WW-T-7007 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Tolerance are per ASTM B210 (see details on Dwg D6019)

f) Material certification required

| | | |
|-----|----------|--------------------|
| 2.0 | D6019128 | Crosstube Material |
|-----|----------|--------------------|



Comment: Qty.: 1.0000 Each(s)/Unit Total: 30.0000 Each(s)
 Crosstube Material

| | | |
|-----|-------------|-----------------------|
| 3.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|-----|-------------|-----------------------|



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

C 2/10/26 (25)

| | | |
|-----|-----|-------------------|
| 4.0 | QC6 | DIMENSIONAL CHECK |
|-----|-----|-------------------|



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6005

*30 clwrt**(25)**(25)*

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ Date: 07/10/25

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE MATERIAL

Job Number: 32310

Part Number: D6019128

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 0054.1

NA

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *CNC**ml 07 10 27**(25)*

8.0

QC21

FINAL INSPECTION/W/O RELEASE

*(23)*

Comment: FINAL INSPECTION/W/O RELEASE

Dar/027

Job Completion

*U 07.10.29*

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector | |
| | | | | | | | | |
| | | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | o for | | | | |
| | | | | | | | | |
| | | | | | | | | |

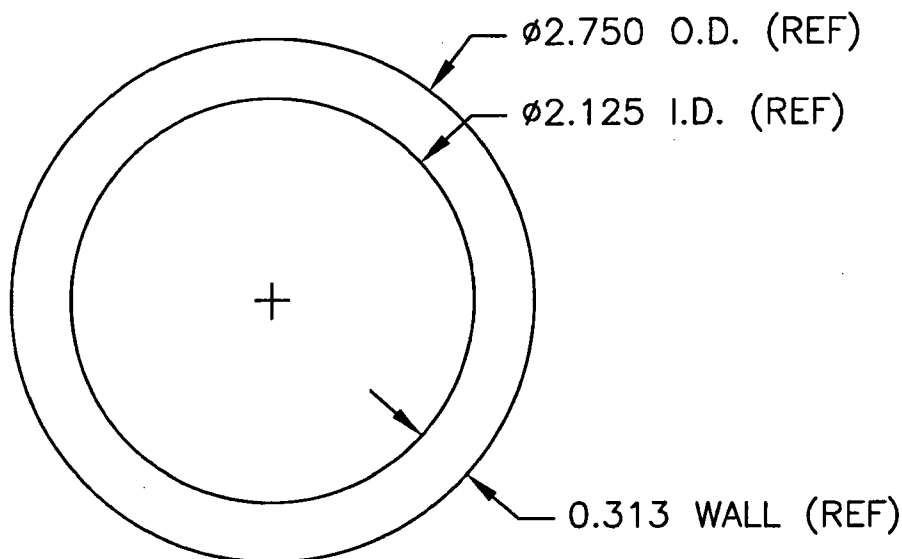
NOTE: Date & initial all entries



| | | | |
|------------------------|-----------------------------|---|------------------------|
| DESIGN QP | DRAWN BY QP | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED [Signature] | APPROVED [Signature] | DRAWING NO. D6019 | REV. A SHEET 1 OF 1 |
| DATE 06.11.03 | TITLE CROSSTUBE MATERIAL | | SCALE 1:1 |
| A | 06.11.03 | NEW ISSUE | |

SPECIFICATION CONTROL DRAWING

RELEASED
07.04.09 [Signature]



NOTES

- 1) D6019-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 128" LONG TUBE: D6019-128

- 2) MATERIAL: 2.750 OD x 0.313 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi

- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.015 MEAN (± 0.038 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 32310

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ALUnna

Abnahmeprüfzeugnis 3.1 - EN 10204:2004*Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004***Kunde:** Dart Aerospace Ltd.*Client:*1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada**Zeugnisnummer:** 1003/07*Cert No.: / No. du certificat:***Bestellnummer:** PO00003761*Order No. / No. de commande***Auftrag:** 25006/2*Our Reference/Notre Ref.:***Produkt:***Product / Produit:***Spezifikation:***Specification:*Rohre nahtlos gepresst
Tubes seamless extruded Tubes file sur aiguille
AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace
D6007**Werkstoff:***Alloy/Alliage:***Abmessung***Size / Dimension***Kennzeichnung***Marking/Marquage:*

EN AW-7075

3.4365

2,750 INCH x 2,124 INCH x 0,313 INCH x 128,000 INCH

D6019-128 2.750 X 0.313 X 128

ALUnna - Cert No. 1003/07 - 7075 - T 6511 - Cast No. AMS QQA 200/11 - 2.750" OD X 0.313" Wall - Heat No
947/09 - Lot 25006/2-1 PO. 00003761**Lieferung:***Delivered Material / Matériel délivré:*

Stück/pcs.

25

kg/kgs

354,00

Zustand:*Temper/État*

T 6511

1. Chemische Analyse**Chemical Analysis / analyse chimique**

| | Si | Fe | Cu | Mn | Mg | Cr | Zn | Ti | Pb | Zr | Bi | Sn | Ni |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Charge/ min. | | | 1,2 | | 2,1 | 0,18 | 5,1 | | | | | | |
| Cast No. max. | 0,40 | 0,50 | 2,0 | 0,30 | 2,9 | 0,28 | 6,1 | 0,20 | | | | | |
| 80861 | 0,05 | 0,13 | 1,48 | 0,07 | 2,33 | 0,19 | 5,76 | 0,04 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 |
| 01706073 | 0,12 | 0,28 | 1,48 | 0,04 | 2,5 | 0,18 | 5,95 | 0,03 | 0 | 0,01 | | | |

Elemente ohne Angabe < 0,01 % / Elements without indication < 0,01 %

2. Mechanische Eigenschaften**Mechanical Properties / Valeurs Mécaniques**

| Anforderungen Specification | Rm N/mm ² | Rp0,2 N/mm ² | A5 % | A 50 % | HB | Heat No. |
|--------------------------------|-------------------------|----------------------------|---------|-----------|----|------------------|
| min: | 531 | 455 | | | | |
| max: | | | | | | |
| 1 | 597 | 549 | 13,3 | 10,0 | | 947/09 - 25 pcs. |
| 2 | 602 | 557 | 11,7 | 9,0 | | |

RMS: außen 25 - max. 17,8 µ"

**Ergebnis der
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

